### STIC Biotechnology Systems Branch

# RAW SEQUENCE LISTING ERROR REPORT

The Biotechnology Systems Branch of the Scientific and Technical Information Center (STIC) detected errors when processing the following computer readable form:

Application Serial Number:	/0/ <i>5</i> 37, 839
Source:	PG/10
Date Processed by STIC:	6/16/05

THE ATTACHED PRINTOUT EXPLAINS DETECTED ERRORS.
PLEASE FORWARD THIS INFORMATION TO THE APPLICANT BY EITHER:

- 1) INCLUDING A COPY OF THIS PRINTOUT IN YOUR NEXT COMMUNICATION TO THE APPLICANT, WITH A NOTICE TO COMPLY or,
- 2) TELEPHONING APPLICANT AND FAXING A COPY OF THIS PRINTOUT, WITH A NOTICE TO COMPLY

FOR CRF SUBMISSION AND PATENTIN SOFTWARE QUESTIONS, PLEASE CONTACT MARK SPENCER, TELEPHONE: 571-272-2510; FAX: 571-273-0221

TO REDUCE ERRORED SEQUENCE LISTINGS, PLEASE USE THE <u>CHECKER</u> <u>VERSION 4.2.2 PROGRAM</u>, ACCESSIBLE THROUGH THE U.S. PATENT AND TRADEMARK OFFICE WEBSITE. SEE BELOW FOR ADDRESS:

http://www.uspto.gov/web/offices/pac/checker/chkrnote.htm

Applicants submitting genetic sequence information electronically on diskette or CD-Rom should be aware that there is a possibility that the disk/CD-Rom may have been affected by treatment given to all incoming mail. Please consider using alternate methods of submission for the disk/CD-Rom or replacement disk/CD-Rom.

Any reply including a sequence listing in electronic form should NOT be sent to the 20231 zip code address for the United States Patent and Trademark Office, and instead should be sent via the following to the indicated addresses:

- 1. EFS-Bio (<a href="http://www.uspto.gov/ebc/efs/downloads/documents.htm">http://www.uspto.gov/ebc/efs/downloads/documents.htm</a>, EFS Submission User Manual ePAVE)
- 2. U.S. Postal Service: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450
- Hand Carry, Federal Express, United Parcel Service, or other delivery service (EFFECTIVE 01/14/05):
   U.S. Patent and Trademark Office, Mail Stop Sequence, Customer Window, Randolph Building, 401 Dulany Street,
   Alexandria, VA 22314

Revised 01/24/05

# Raw Sequence Listing Error Summary

*	10/6/10/29
ERROR DETECTED	SUGGESTED CORRECTION SERIAL NUMBER: 10/557,839
	PLEASE DISREGARD ENGLISH "ALPHA" HEADERS, WHICH WERE INSERTED BY PTO SOFTWARE
Wrapped Nucleics Wrapped Aminos	The number/text at the end of each line "wrapped" down to the next line. This may occur if your file was retrieved in a word processor after creating it. Please adjust your right margin to .3; this will prevent "wrapping."
·2Invalid Line Length	The rules require that a line not exceed 72 characters in length. This includes white spaces.
3Misaligned Amino Numbering	The numbering under each 5th amino acid is misaligned. Do not use tab codes between numbers; use space characters, instead.
4Non-ASCII	The submitted file was not saved in ASCII(DOS) text, as required by the Sequence Rules. Please ensure your subsequent submission is saved in ASCII text.
5Variable Length	Sequence(s) contain n's or Xaa's representing more than one residue. Per Sequence Rules, each n or Xaa can only represent a single residue. Please present the maximum number of each residue having variable length and indicate in the <220>-<223> section that some may be missing.
6PatentIn 2.0 "bug"	A "bug" in Patentln version 2.0 has caused the <220>-<223> section to be missing from amino acid sequences(s) Normally, Patentln would automatically generate this section from the previously coded nucleic acid sequence. Please manually copy the relevant <220>-<223> section to the subsequent amino acid sequence. This applies to the mandatory <220>-<223> sections for Artificial or Unknown sequences.
7Skipped Sequences (OLD RULES)	Sequence(s) missing. If intentional, please insert the following lines for each skipped sequence:  (2) INFORMATION FOR SEQ ID NO:X: (insert SEQ ID NO where "X" is shown)  (i) SEQUENCE CHARACTERISTICS: (Do not insert any subheadings under this heading)  (xi) SEQUENCE DESCRIPTION:SEQ ID NO:X: (insert SEQ ID NO where "X" is shown)  This sequence is intentionally skipped
	Please also adjust the "(ii) NUMBER OF SEQUENCES:" response to include the skipped sequences.
8Skipped Sequences (NEW RULES)	Sequence(s) missing. If intentional, please insert the following lines for each skipped sequence: <210> sequence id number <400> sequence id number 000
9Use of n's or Xaa's (NEW RULES)	Per 1.823 of Sequence Rules, use of <220>-<223> is MANDATORY if n s or Xaa's are present. In <220> to <223> section, please explain location of n or Xaa, and which residue n or Xaa represents.
10	Per 1.823 of Sequence Rules, the only valid <213> responses are: Unknown, Artificial Sequence, or scientific name (Genus/species). <220>-<223> section is required when <213> response is Unknown or is Artificial Sequence
Use of <220>	Sequence(s) missing the <220> "Feature" and associated numeric identifiers and responses. Use of <220> to <223> is MANDATORY if <213> "Organism" response is "Artificial Sequence" or "Unknown." Please explain source of genetic material in <220> to <223> section. (See "Federal Register," 06/01/1998, Vol. 63, No. 104, pp. 29631-32) (Sec. 1.823 of Sequence Rules)
Patentin 2.0 "bug"	Please do not use "Copy to Disk" function of PatentIn version 2.0. This causes a corrupted file, resulting in missing mandatory numeric identifiers and responses (as indicated on raw sequence listing). Instead, please use "File Manager" or any other manual means to copy file to floppy disk.
13 Misuse of n/Xaa	"n" can only represent a single nucleotide; "Xaa" can only represent a single amino acid
-	AMC - Biotechnology Systems Branch - 09/09/2003

BEST AVAILABLE COPY



PCT

RAW SEQUENCE LISTING

PATENT APPLICATION: US/10/537,839

DATE: 06/16/2005

TIME: 10:18:53

Input Set : A:\pto.da.txt

Output 'Set: N:\CRF4\06162005\J537839.raw

3 <110> APPLICANT: THE CORPORATION OF THE TRUSTEES OF THE ORDER OF THE SISTERS OF MERCY IN
4 QUEENSLAND

6 <120> TITLE OF INVENTION: NOVEL THERAPEUTIC MOLECULES AND USES THEREOF

8 <130> FILE REFERENCE: 12381870/TDO

C--> 10 <140> CURRENT APPLICATION NUMBER: US/10/537,839

C--> 10 <141> CURRENT FILING DATE: 2005-06:06

10 <150> PRIOR APPLICATION NUMBER: 2002953223

11 <151> PRIOR FILING DATE: 2002-06-12

13 <160> NUMBER OF SEQ ID NOS: 32

3362 <210> SEQ ID NO: 32

15 <170> SOFTWARE: PatentIn version 3.1

Does Not Comply Compiled Diskette Neede

#### **ERRORED SEQUENCES**

3363	<211> LENGT	ΓH: 32460	_	1.)	•		
3364	<212> TYPE:	: DNA	$\bigcap$	1			
3365	<213> ORGAN	NISM: human	(X ·	10		,	
3367	<400> SEQUE	ENCE: 32	V				
3368	attttttta	actgggtcat	ttgttttcac	gttgttgagt	ttagacttga	ttttatagaa	60
3370	ctcttttgcc	aatgacatga	ggcttaaaca	agcacccttg	cttgaccctg	gctagtgttg	120
3372	tccagaggcc	ctcatgggtg	aagtataatt	gcacagttta	tgcatacatt	gtagcaaaca	180
3374	tagcttaaag	actcttcatc	caggagctgg	taacagagaa	aagttgtcta	agagacatag	240
3376	tccactgaaa	ggggtctttg	aaaaggagga	ttctggccag	tagatccaaa	gaagaaggct	300
3378	ggcaaacgcc	accttaacca	actgatccaa	gttaacatca	gtgatgagac	atcgacatct	360
3380	tgtccttctc	gagcacgtac	atcacttctg	gggaactctt	tcccaaaaaa	gcgcaacctg	420
3382	aatccaatta	gaaggaaatg	tcagacaaaa	tgaaactgag	ggacattcta	caaaacgact	480
3384	ggccagtact	ttttaaatgt	ggtttgatcg	tgaaagaaaa	agaatgacag	agaaccgtcc	540
3386	tagattaaag	ggagactaag	gagacacgac	atgcaatgta	tgatcctgga	ttgaatcttg	600
3388	gaacagaaaa	ggacccttag	aggggcaatt	aatgaaatgt	ggtaagtgct	gtagattagc	660
3390	taatcgcatt	atcccagtgc	gagtgccctg	tgtttgatca	ctgcactggc	gttatataca	720
3392	atgtcaatat	ttagagaagc	tggctgaagg	gttacggaaa	tctcttgtgc	tgtttttgca	780
3394	acattttcga	aagtcctaaa	ttatttcaat	tcaaatgaaa	agtttaaaaa	acaaaaatta	840
3396	gaagttccag	aaggccgcgc	gccagccgct	cctgcgggac	gggacacccg	ggttctcctg	900
3398	gtgggagccc	ccagtgccgt	tcacgttccg	cccggggggg	ggattaaact	cgcacgcgag	960
3400	aagcaccgcc	cccgctcccg	ccccgccccg	ctcctctccg	gccgcgcagc	cgctgccgcc	1020
3402	cacccgcacc	cgccgtcatg	ctccgggccg	cgctgcccgc	gctcctgctg	ccgttgctgg	1080
3404	gcctcgccgc	tgctgccgtc	gcgggtaagc	ccttacgtag	tecetegeeg	ggaccgtgcg	1140
3406	cgaccgcctt	cgcccccttc	ccaacgcacg	ctcttcgtcc	ccgcgcaccc	gagggcggcc	1200
3408	cgcagacgca	acacccggcc	ggccatcccg	cccttccctg	cacgcccgtc	ccccgtgggt	1260
3410	cctggctccg	ggtcacctct	cacccgcctg	ccctcgggga	ggggaggtgg	ccgagaataa	1320

3412 gggagggctc tgtcttcctc ggagtccaca tcctcaccgc agaccccact ccgcggggag

3414 ggaaccccca aattaggcca gttggccgga gaactgaggg acttggagtc gcacgacggg

1380

Input Set : A:\pto.da.txt

3416	caccatttca	gggcaatttc	gggctgaaat	gagaagcggg	gacgttggtg	gcgatttccc	1500
			tggggttgct				1560
			tgtttgtcta				1620
			ccctggatg				1680
			tttaaagttc				1740
			catttacaaa				1800
			aaaaaatttc				1860
			acttccaaaa				1920
			ctaaatgagt				1980
			attcccccc				2040
			gaagtctact				2100
			acttggatac				2160
							2220
			ggttgtgaca				2280
			ttcagactgg				2340
			ctgcacaccc				2400
			gaggetgtge				2460
			cagacttta				2520
			tttgaccagc				2520
			gtccagtgtg				
			atgttaatta				2640
			tgagctttga				2700
			ttactcatgg				2760
			cgtggttcat				2820
			gcaaccagaa	_		_	2880
			cattcatatg				2940
			tacaaatctc				3000
			agagtttgtt				3060
			atatgggtat				3120
			ctggaggtta				3180
			gtggacaaaa				3240
			ttccgtaagg				3300
			ttcctatgcc				3360
			atcatcatgt				3420
			aggtgcctct				3480
			tgtatccaca				3540
			caccttcccc				3600
			atgtcacctt				3660
			atcttttcca				3720
			cttaccaggg		·		3780
			ttttgatttg				3840
			tgagttattt				3900
3498	ttttttcaaa	ttatattacc	tctgctatgc	actcatttca	taatgaattc	aaagccttaa	3960
3500	atcatcttaa	tctattgctg	ccaccttttc	tttctttctt	ttttttttt	tccgagatgg	4020
3502	agtctcactc	tgtcacccag	gctggagtgc	ggtggcgcaa	tctcggctca	cagcaacctc	4080
3504	taccttctgg	gttcaagcaa	ttctcctgcc	tcagcctccc	gagtagctgg	gattacaggc	4140
3506	atgcgccacc	atgcctggct	aacttttgta	tttttagtag	agatggggtt	tcaccatgtt	4200
3508	ggccaggctg	gtctcaaact	cctggcctcg	tgatctgccc	acctcggcct	cccaaagtgc	4260
3510	tgggattaca	ggtgtgagcc	accgtgcccg	gcctgatgcc	accttttctg	actcttgtgt	4320
3512	atggcacagt	tatgtttcag	gggaaattat	ctcagattaa	atattagagt	attttaaaat	4380

Input Set : A:\pto.da.txt

3514	aaattttgag	ctgggcgtgg	tggctcacgc	ctgtaatccc	agcactttgg	gaggccgagg	4440
		acgaggtcag					4500
3518	tctactaaaa	atacaaaaaa	ttagccgggc	gtggtggcag	gcacctgtgg	tcccagctac	4560
3520	tcaggaggct	gaggcaggag	aatggcgtga	acccaggaga	cagagcttgc	agtgagctga	4620
3522	gatcgcgcca	ctgcactcca	gcctgggcga	cagagcgaga	ctcagtctca	aaataaataa	4680
3524	atgaataaat	aaataaataa	ataaataaat	aaattaatta	attttgaaat	gttaatgttt	4740
3526	atttttcttc	caatgaaaaa	gtgaaatttc	aattaggtat	tatttcagga	cttcttttac	4800
3528	tgttgagaat	cttttaacaa	tttgcttatg	tgttgaaaac	tagttttgca	gcaaggttac	4860
3530	tttccataat	ttttattgtg	catatcaagt	atttcattcc	ttctgtgggt	tatttagtgt	4920
3532	tttttttt	attattttat	tttattttat	tttattttat	tttattgttt	tgagacaggg	4980
3534	cctcactctg	tcacccaggc	tagagtgcag	tggtgcaatc	atggctcact	acagccttga	5040
3536	cctgctgggc	tcaagtgatc	ctcccacctc	agccccctga	gtagctggga	ctacaggtgc	5100
3538	atgccaccat	gccctgctaa	tttttttt	tttttttgt	agaggtgggg	tctcactttg	5160
3540	ttgcccaggc	tagtcccaaa	ctcctgagct	caagtgatcc	tcctacctca	gccttccaaa	5220
3542	gctctgggat	tacaggtgtg	aactgccacg	cctggcctat	tttagatttt	gagagcaaat	5280
3544	cttgagacca	aatctttaaa	aaatagacca	gtgatgccca	aagagaaagg	tacagattaa	.5340
3546	caatggcaca	ccccttctat	gaatatacat	tataacagcc	cttctgaaga	gggaagtgat	5400
3548	gggacaatat	ggagatggat	gtcttgaaag	ctagattggg	aagagtgata	tggagagggg	5460
3550	atgaggtgtc	agagtgcctc	aatttatttg	ggattcagag	agatcttgaa	gctcagagta	5520
3552	cagccacaga	atctctggat	tagtcaggga	cttggaacag	ccactccctc	ctccatacat	5580
		ataaatagcc					5640
3556	agttatgtga	ctacaactca	tatcttaatg	ggagaggagc	aaaggtctta	ttattgacaa	5700
3558	tgaaaatgaa	aaagaagtct	ttcccttttc	ctttgttaac	atttagaaca	agtatgtccc	5760
3560	aagaatcact	tcctcatgct	gtgcctgttt	ttttttttt	tttttaaaaa	aaagagagac	5820
3562	agagaactta	taaaggaaca	gagagttcta	ttagatttga	ctggtaatgc	aaagtattcc	5880
3564	tgtggatatg	acattatctt	cttttagcac	atgataattt	taggcagagg	atctatatag	5940
3566	aaacttttgg	agttatgcta	agtacagctt	ttaaaatatt	catgaggctc	ctgaatttct	6000
3568	gtacgtatta	aagaattata	aaattataaa	atccctaaga	gtcatttaag	tgcattatta	6060
3570	ataacaacct	atcattcagg	actgctgtga	agaaataaga	gtaataggcc	ctttgcagag	6120
3572	agcttagtgg	gcaggttttt	aattatatta	ggattatggc	aaagatactt	agcgttgaag	6180
3574	acgacttagt	ttagtctttt	gttcatgagg	tgcatgaacg	tcaacaatct	cctcacagga	6240
3576	gttatccagc	ctctatttga	gcactgttct	tctcaaagta	aaaatatatc	ttttgagtag	6300
3578	tgcttaaaac	ttgtttctgg	ggcacacact	ctgatcgggg	atctatagca	tgagaaaagg	6360
3580	ggttccatgt	tgaattaact	ggagttactg	ctaatgctga	aatgagccta	aggagaaggc	6420
		tttggggaag					6480
3584	gttaaaaaaa	aattttttt	tggtcttgtc	acatgcagat	gctcctcgac	ttagaatggg	6540
3586	gctatatccc	aataaacttg	tgaagtcaaa	aaatcgtaag	ttgtccatta	ttaagttcgg	6600
3588	gaccatttct	gtattgctaa	cttagttatt	cagcaatggt	ctttgagtag	ctggttatca	· 6660
3590	ttatcatcat	catagtcatt	cccatactgt	gcaacacagt	agcattgtgt	ttgctcctcc	6720
3592	ctctgtttgc	ctgaaatatc	catgtgactt	ctttccctat	cttttcagac	acacacacac	6780
		acacacacac					6840
3596	ccctgactaa	tacaataacc	aataagatag	tatggaaata	agacagtgtg	acaatcaagg	6900
3598	ctggattgta	tgaagcattg	catatccacc	tttgccctcc	tttgaatcac	tcactctggg	6960
		tgccatgtca					7020
3602	gaggaactgt	ggtgtcctgc	ccacagccag	caccagctca	ccacccatat	gagtgaggct	7080
		gacctttcag					7140
		aacttcatgg					7200
3608	gaattcctga	cccagagaaa	ctgtatataa	taagtgtttc	ttgttttaag	ctgctaattt	7260
3610	tttacatagc	aatagaccac	aatacaccat	ctaacatatt	attttatgta	tttgtcttcc	7320
			•				

Input Set : A:\pto.da.txt

3612	ttttgcataa	ctgcgtcaac	tagaacataa	atttccagga	gggcaggaat	ttcttttcct	7380
3614	ttttgttcac	tgtggaatct	caagcacctt	gcacaatttt	ttaacagcac	cccctcagat	7440
3616	aggtactgtt	attcccatta	tacagatgag	gaaactggga	cacagtaagg	ttaaataaca	7500
3618	tgtccacgat	tgtgtagtca	gagccagact	tttctccaca	gtctaatggg	cttaaccaga	7560
		gacccacttc					7620
3622	gttattattg	agagtagtta	gatctcagac	atggtctctg	ctgtcgtggc	gttaacaatc	7680
		acaggatgca					7740
		tgtataggcc					7800
		tcttatgatt					7860
		aatttcctta					7920
3632	tggggcctag	tatatgaacg	ctaagcctat	ttgactgttg	agatagtatc	ctcagttttc	7980
		tgtatctgta					8040
		agaaaaggtc					8100
		aggttagagg					8160
		aaataagaat					8220
		taaagtataa					8280
		tataagtgct					8340
		atataaatgg					8400
3648	tttgttataa	gtagaaaaca	ctatctgtag	ttttgactag	aaataataca	aaagtgcatt	8460
		tggttcaata					8520
		cagttccatt					8580
		ccagaagaaa					8640
3656	gcaatttaga	gcctctgccc	ttttgacttt	cagtttgagt	tttattctgg	aaatgacttc	8700
		gtcatgtctc					8760
3660	tatcctagtt	cactcattca	atgaatattt	atggagacct	tactaggtac	ctgtaactgt	8820
3662	gctttttatc	atatgccctc	tgcctggatt	tttttttct	ttttcctttt	atccgtggca	8880
		tatccagtga					8940
		agttatactc					9000
3668	tcggaatatc	tgtttgtctg	tccgactctt	ccatcagact	gaccacttca	agtgtagaag	9060
3670	acttttactc	tttttctcat	caccccttaa	cactaagcat	tatacctaac	acataggagt	9120
3672	tgctcagcaa	atgtctgata	tggatgatgg	gtagatgggt	gaccaactgt	tgacaacttg	9180
3674	ttgaaaagta	taaaagatgg	aattttgcat	ctggctatca	tggagtagga	gactaacact	9240
3676	cccattaaga	acaactagaa	aatctagatt	aaattccata	agaatcgtat	ttgctggcat	9300
3678	cagagagctg	ctaaggcagt	ttgctgaggt	gagcccaaca	gtctgtgtat	tacttttctc	9360
3680	cttaggagag	ctggtaaaat	cttaaatagc	taaaagcaga	gcagagtttt	tggcaatctc	9420
3682	atagtgttga	ggaaagaaaa	aacatgagtc	ttagctcacc	aaagaggagg	tggctctagt	9480
3684	taatatccag	gctttcaact	ggcaatccct	acggatcaaa	agtctacaaa	gtctagaaca	9540
3686	cctcttcaca	tagactcagt	ccctgctgat	cagaatcctt	tctaaaggaa	gataacatca	9600
3688	tttagagtta	ctacaatttt	tcatacacag	tgtttggcat	ttgatagaaa	actaccagac	9660
3690	agaacaaaaa	aaaaaacag	gcctaagggg	gtgtgagggt	gcagggtagg	agagtagaga	9720
		aactgaccta					9780
		gaatataaat					9840
3696	ttaaaaatat	aatcaagttg	aaattctata	actgaaaaat	cactgacatt	ataaactcaa	9900
		ttaacagcat					9960
		ctttgggagg					10020
		atatagtgac					10080
3704	atcctgtcta	ctcaggaggc	tgaggtggga	ggatcacctg	agcccaggag	ttcaaggctg	10140
		tgaccatgcc					10200
3708	aaaaaaaaa	aaattggagt	tacccttacc	ccagttaagt	tacaacttaa	gagtgcatta	10260

Input Set : A:\pto.da.txt

3710	ataaaccagg	aagaatgaga	ttatattatg	gagagtatta	acagtattga	aaagagcaaa	10320
		ggacatggta					10380
		aatggagcaa					10440
3716	agtgaccaat	gaaaataagc	cacagattca	gaaagtgcat	tgaattctta	gcaggattta	10500
		aacaacagca					10560
		gcaagaaggg					10620
		tctcagtaga					10680
		caacagggat					10740
		catcgtagag					10800
		gctggagcct					10860
3730	ctatactgaa	tactgtaggc	aattgtagca	caacataagt	atttgtgttt	ctaaacatag	10920
		gtaaaaataa					10980
		aagatgtcat					11040
3736	gctgccattc	tacaattctg	tatttgcaaa	gatagccatc	aaacatgaag	acagtataaa	11100
		ctttttcttt					11160
		gtgcaatctt					11220
		gctccccaat					11280
		tttagtagag					11340
		tgatccaccc					11400
		ttatagagta					11460
		gagatttctt					11520
		atgaagagca					11580
		aacagtaata					11640
		ttctaggact					11700
		ggtcacatat					11760
		taacaagcta					11820
		gagaaaaaag					11880
		ataaactcca					11940
3766	attaaaagac	aaaggtgatc	aagctggatt	taaaaaaaaa	ctacttgctg	cttgcaagaa	12000
		ttagaaaaag					12060
		gcaatctact					12120
3772	aagcagcatt	acaatggcca	caaactagaa	actacccaaa	tattcatcaa	cagaagaatg	12180
3774	aataagttct	tagataagtc	ttaaataaaa	tgatttttaa	agtaacattt	atcaaaagaa	12240
		aaagagtaca					12300
3778	aaactaatcg	atggtgttag	aagttaggtt	agagatgacc	tttggaaggg	atggtgagca	12360
3780	aaaggggtta	atgttctgtt	cctcattcct	ctgataatta	tatgggtatg	tttactttat	12420
3782	aaaaaattca	ccaaaaaata	aaagaaaaaa	gaaaaaaatt	caccaacctg	tatatttatg	12480
3784	acttgtgcat	tgcatgtatg	ttttatttga	ataaaaagtt	tagtttttaa	aaagtgtatc	12540
3786	aggaaaggta	ttagaattgg	cagcaaggtc	aattcagtta	tattttagta	tgtaagaaac	12600
3788	ttggccgggc	gcagtggctc	atgcctgtaa	tcccagcact	ttgggaggcc	aaggtggccc	12660
3790	aatcaccaga	ggtcaggagt	tcaagaccag	cctaaccaac	atggtgaaac	cctgtctcta	12720
3792	ctaaaaatac	aaaaattagc	tgggtgtggt	ggcgggagcc	tgtaatccca	gctattgggg	12780
3794	aggctgaggc	aggagaatca	cttgaaccca	ggaggcagag	gttgcattga	gctgagatcg	12840
3796	cgccactgcc	ctccagcctg	ggcgacagag	tgagactctg	tctcaaaaaa	aaaaaaaaa	12900
3798	aaagaaaaag	acaacatgct	tcaagaagga	aaggttgaac	ccacagggaa	agggagtgtt	12960
		gaagagatga					13020
3802	ttcagctgaa	tattttaagt	ccctattata	atccaagagc	tatctgaggt	gttaggaatc	13080
		taaggcttag					13140
3806	gccaatgatg	atgtctgtaa	aaactacata	tttttaatac	tttccttgta	cgagacactg	13200

Input Set : A:\pto.da.txt

		gtttgcagta					13260
		tcctgatgaa					13320
		ataagtctgt					13380
		tgtgtggtta					13440
3816	agaaggtggt	atagatggcc	tgagcctcaa	aggatgagca	gacagagaat	aatgtttgat	13500
3818	ggcctggaag	tggatttgaa	ggaagaagag	tcttttctct	gaataaaggc	cagattttca	13560
		cagaaatgta					13620
3822	ggatctacct	gctccatata	cagactttca	accaagtgtc	ttgttttcag	accttcctcc	13680
3824	tacaaagctg	tctggcgtct	ccaattcctg	actctgttct	ggacttcttt	gctttgtaaa	13740
		atgtaatttt					13800
3828	caaagcaaac	tgcttgttgc	aaaacaaccg	tatctttaag	ccagcattgt	gggagagttc	13860
3830	tagattcctg	ccagagttaa	acccaaggta	gtcatatgtg	taattcaagt	gctcataaaa	13920
3832	cagctggaag	gaaaaaaaat	ttggatataa	aataaattat	aggtggggca	cagtggctct	13980
		cccagcactt					14040
3836	cagagcagcc	tgggcaacat	agcaagacct	tgtctctaca	aaaaaattaa	aaaattagcc	14100
		ttgtgtacct					14160
3840	ttgagcctgg	gaggcggagg	ttgcagtgag	ccaaggtcat	gccactgcac	tctagcctgg	14220
3842	gtgacagagt	aagactctgt	ctcaaaaaaa	aaaaaaaaa	aaagtctgta	cggatacagg	14280
3844	gagcacactg	cttcctttta	aaggcaagac	cgctatgttg	aacattccac	ttctgctaaa	14340
3846	ccctaattat	ccagaagtta	taagactgcg	aagcaatcta	gcttggtggc	catgtgctct	14400
3848	gtgctatata	agaagctgag	gtcagtactg	gggacaacca	atgctctctg	ccatattctg	14460
3850	agcttagtaa	acttgagagt	gttgaattaa	tttagattaa	tgtagctgat	tggtaaattc	14520
3852	tgatctttgt	ggtagggctt	gcttctactt	gtttatatta	aaaaggtaat	gcagaactta	14580
3854	ggcctggcgt	ggtggctcac	acctgttatt	ccagcagttt	aagagaccaa	ggcgggtgga	14640
3856	tcgcttgtgc	ttaggagttt	gagaccagcc	tgggcaacgt	ggcgaaacct	tgtctctaca	14700
3858	aaaaatacaa	aagttagccg	ggcatggtgg	cacatacctg	cagtcccagc	tacacggaac	14760
3860	gctgaggtgg	gaggatccct	tgagcccagg	aggcagaggc	tgcagtgagc	tgagatcgcg	14820
		ccagccagga					14880
3864	aaaaaaaag	cagaacttaa	aacataaaat	tgctacatat	ttatatagat	gaaatcacta	14940
3866	agatttttac	ctatatacaa	acctaacaga	atatggacgc	ttactgcttt	gtacttcttt	15000
		attaagtaaa					15060
		gcttttaata					15120
		taaaaagaga					15180
		atggttctat					15240
		acattcataa					15300
		ataggctagc					15360
		ccttgtaaaa					15420
		gaagtgtgta					15480
		atttacatgt					15540
3886	gtaaagtcag	aagagaatca	ttggcacatt	tctcttttcc	cgtatgaata	atggagagaa	15600
		gttacactgg					15660
		tgtgtgaaaa					15720
		aagttattta					15780
		agttccaaga					15840
		atgtcagaaa					15900
3898	ttgtttttc	acaaattagt	gaacagtgtt	cattaatttc	tttaaaaatt	gattttgtca	15960
		ttaactgggt					16020
		gtggaattgg					16080
3904	aatattgtcc	aaagcagggt	ctatttaaca	tgcatatcct	gtgccaggca	ctgtgcttaa	16140

Input Set : A:\pto.da.txt

			ggctttatca				16200
3908	cattttattg	agagatgaaa	ttaacttcag	ttatttgttc	aagcttacac	aggaaataat	16260
3910	tgacaaagcc	aggattttaa	cccagatctg	ttggatttta	ggcttagagt	tcttaatcac	16320
3912	ttagttattc	tgcctggaaa	gtgctgaagt	cagattacat	aggaccatga	agtaagactg	16380
3914	tagtaaagaa	gagtacatta	aggaaaaatt	ataaaaaggc	tatttgctag	accatacact	16440
3916	cagtgttctc	taggaaatag	atttataaca	tcacattgta	aaatatttga	agtgtctttt	16500
3918	tttttttt	tgagacaggg	tcttgctgtg	tcccccaggc	ttgagtgcag	tggcatgatc	16560
			actcctgggt				16620
			gcgctagcta				16680
			gtctgaaact				16740
3926	cttccaaggt	gctgggatta	caggtgtgag	ccactgcatc	cagccaaaaa	aatgtctttt	16800
			tgtgagatgg				16860
			ctgcaagctg				16920
			gattaccagc			•	16980
	_		ttcactgttg				17040
			ctgcctcagc				17100
			tttgtatttt				17160
			aggtcaggca				17220
			catgcccagc				17280
3944	ttcaacaata	acatttggaa	gaatgtatca	aattgtacta	gggatacctt	aatcaaaatc	17340
			gaataaatgt				17400
3948	gccacatagt	acttaataca	tatatgttgt	ttccctttga	aaaagtctta	catgaacatt	17460
3950	ggctctgtga	aaacaagacg	aaatttccaa	catgccaata	tggttttatt	tcaaggcagt	17520
			tttgctggtc				17580
3954	gcaactattt	tctttccttt	cttccttttt	cttcttcctc	ttttctttct	ttctctctct	17640
3956	tttcatttgt	tctttctttc	tttccctttt	tttttttaa	tggagtctca	gtctgttgcc	17700
3958	caggctggag	tgcagtggtg	tgatctcagc	tcattgcaac	ctctacctcc	tgggttcaag	17760
3960	caattctcct	gcctcagcct	cctgagtagc	tgggattaca	ggtgggtgcc	accagaccca	17820
3962	actaatttta	ttttatttta	ttttttttg	gtagggacag	gatttcgtca	tgttggccag	17880
3964	gctggtctca	aactcctgac	ctcaggtgat	ccacccgcct	cagcctccca	aagtgctggg	17940
3966	attacaggca	tgagccacca	cgcccagccc	ctacaactat	tttccatccc	ttaaaaaaaa	18000
3968	ttatgtaaag	tatactgaga	cataaacata	atttcaatga	cataaatcat	attagaggct	18060
3970	gagagccaag	acatgtccct	gtaaccttat	tagcttgtat	gaactgtaag	atcaaagttt	18120
			atagaaagtt				18180
3974	gtgattttca	ctgattctgg	aatatgctga	cttttttct	ctttaaaata	atttcaggag	18240
3976	cggacatgat	aagcatacat	aatgaagaag	aaaatgcttt	tatactggat	actttgaaaa	18300
3978	agcaatggaa	aggcccagat	gatatcctac	taggcatgtt	ttatgacaca	gatggtaagt	18360
3980	gatatttacc	tcgtgggacg	tgactttgtt	gttcttttt	taatgtagca	aaactgatgg	18420
3982	cttttcaatt	ctctggttca	agttgatgat	tcctgtggcc	tccaggtgtt	aaattttcag	18480
3984	tgtgcaccta	tgatcatacc	acagcttgta	tctgcatagc	tcaatgagtt	acacagatga	18540
3986	aagccacagt	tgattcttgt	ctggattaaa	atgtggctct	aaggctcagt	atttttgtaa	18600
3988	tatagcatga	tcataaaggt	aagtattagt	gtctgcaact	aataggctaa	ggatagacta	18660
3990	aattatcacg	gttctattat	ataaacatat	ttatcattac	tgtagacaaa	gtacatatgt	18720
3992	acaaatataa	aagtacatat	gtaaacattt	tcaaatgaaa	tgaaattact	aaggttacta	18780
3994	ttaatattta	actatttttc	ttgacttttt	tcccatgaga	atattataca	tgtatatatt	18840
3996	tttgcgaaaa	ttggatcatc	ttcagaaacc	tcttaaatcg	atagcttttg	atgatttggc	18900
			ccttctaatt				18960
	_		cctttaatcc				19020
4002	aactgtcata	atgttgaaaa	tattccttaa	ttgacagatg	cgagtttcaa	gtggtttgat	19080

Input Set : A:\pto.da.txt

4004	aattcaaata	tgacatttga	taagtggaca	gaccaagatg	atgatgagga	tttagttgac	19140
4006	acctgtgctt	ttctgcacat	caagacaggt	gaatggaaaa	aaggaaattg	tgaagtttct	19200
4008	tctgtggaag	gaacactatg	caaaacagct	agtaagtatg	accgaaggtg	tttttccatt	19260
4010	ctagaagggg	cagagaaagt	aggactggtt	ttaaaataat	tttgagataa	gtgtgcctca	19320
4012	ataaatagaa	taaggctagg	cacagtggct	cacgcctgca	atcccagcat	tatggtaaac	19380
4014	tgaggcactg	gattgcttga	gcgcaggagt	tgaagaccag	cttgagcaac	atggcgaaaa	19440
4016	ctcatctcta	caaaaaatac	aaaaatcagc	tgggcatggt	ggcgtgcacc	tgcggtccga	19500
4018	aatacatggg	agcctgaggt	gggaggatca	attgagcctg	ggaggttgag	gctgcagtaa	19560
4020	gcctgggcaa	cagagcaaca	ctctgtctca	aaaagaaaaa	aaaaaataga	gggaataaga	19620
4022	cttcagaata	tattaatagg	atggtttgct	cttaagtctc	ttggaactca	aattgtaatt	19680
4024	ctcttacatt	taggaggtaa	ggccagatca	catgaaatag	gcatactttt	attctgtctg	19740
4026	cttagtgttt	ccaagaggtc	aaaaatttct	tgttcagagg	aattattata	atctctttgc	19800
4028	atgtgatttg	agtgagcaga	agtggtgaag	agtaatcatg	tataattcca	gaattctcgt	19860
4030	gttactttac	aaggaattag	attctccata	agaacatcct	ttgtttaggc	aaacaaaaac	19920
4032	tacatcatag	tttataattt	atttggaatt	aaaatgtttt	cttctgaccc	gtcagaaggt	19980
4034	tttttttt	tttttttt	tttttgcgat	gcagtctctc	tctgtcgccc	aggctggagt	20040
4036	gcggtggcgc	gatcttggct	cactgcaacc	tctgcctcct	ggcttcaagc	gattctcctg	20100
4038	cctcagcctc	ccaagtagct	gggactacag	gcacccgcca	ccatgcccgg	ctaatttttg	20160
4040	tattttttag	tagagatggg	gtttcaccat	attggccagg	ctggtctcga	actcctgacc	20220
4042	ttgtgatctg	cccacctcag	cctcccaaag	tgttaggatt	acagacgtga	gccactgtgc	20280
4044	ccggcccaga	aggttttta	atgaacagaa	gttatcctgg	cccacaacag	tattttgatg	20340
4046	ttatttgtta	aaacactaca	cagtttgtta	ttctaagttt	tagaaagtaa	ctgttttctc	20400
4048	attaaagaaa	attaaatttt	caaaatgtgg	gctgggtaca	gtggctcatg	cttgtaatcc	20460
		tgaggctgag					20520
		agtttttta					20580
4054	taaacaacca	tttccccatt	ttgcatcctc	agtattttcc	ccttctactt	caactgtaaa	20640
4056	ccaaaactcc	acatcctgct	ttatttcctt	tctttacata	tggaagtatg	tacatttctt	20700
4058	tacttgctac	agcaggatcc	ttgactactg	ttagttttac	agtgattatc	aaaatgttcg	20760
		atggtagcag					20820
4062	tttcaggttc	tgcacctcag	ggtgccatta	cataaacaaa	gtttttaatt	aaactataac	20880
		cagaaatagt					20940
		catttgtttt					21000
		tttcctcaag					21060
		acatctttct					21120
		aatatggatt					21180
4074	ggtttatttt	taatgattgt	gaacatgttt	aaagtcaatc	ctataataaa	gcataattaa	21240
4076	attctaattt	ttattttctt	ttgtatttta	gtcccataca	aaaggaaata	tttatcaggt	21300
		ttggtcttta					21360
		attacagatc					21420
		gaaaggtctc					21480
		tctggcttct					21540
4086	acattcactg	aatttttcc	ctaagtgtca	taatacttta	taaatatatc	atatattgtc	21600
4088	cattctcttg	tttatggata	tttggatcac	ttctagtttt	aaactaattt	gaatagaact	21660
4090	gcctatgaac	attctcccac	atcttctttt	ggacctatgt	tctcattttc	tttgagtata	21720
4092	ttctagaaag	tagaaagctg	ggtcataggg	caagtatata	tatttagatt	tattagaaac	21780
		tttttcaaaa					21840
		tgttcatccc		-			21900
		atcttcttgt					21960
		ttatttattt					22020
	= -						

Input Set : A:\pto.da.txt

4102	gcagtggtgt	gagcttgact	caccgcagtc	ttgacctcct	gggctcaagc	gatacttcca	22080
4104	cctcagcctc	ccaagtagct	gggactacag	gtgtgggccg	ccatgcccag	ctaacttttt	22140
4106	ttgtacagat	ggagtttcac	catgttaccc	aggctagtct	caaactcctg	ggttcaaagg	22200
4108	atccacccgc	ctcagcctcc	caaagtgctg	agattacagg	cgttgggccg	ccatgcccag	22260
4110	ccacccatat	tttttttgag	ttgcctatat	ttttggtagg	aatttttaaa	acaaattttg	22320
4112	tttctttaaa	tttggatatg	ggccgggcta	aataatacaa	aacttagccg	ggcacggtgg	22380
4114	cgggcgcctg	taatcccggc	tacttgggag	gttgaggcag	ggagaattgc	atgaatttgg	22440
4116	gaggcggagg	ttgcagtgag	ccgagatcac	gccactgccc	tccagcctcg	gcgacagagt	22500
4118	gactccatct	cacaaaaaaa	aaaaaaaaa	aaaaaaatt	ggatgtgagt	cctttgccag	22560
4120	ttttctattt	gggggttact	acgatagaac	tatgacagag	gaggagaaaa	gaagtgttgg	22620
4122	gtttgtgtgt	atacaggaat	tacatcctca	ttaatctata	ggaagaagac	aataaataac	22680
4124	aagcattagt	gtggatatgc	agcaattgga	actcttgtgg	taggaatgta	aaatggtgca	22740
4126	gcctctgtga	aaaacagtgt	ggtggttctt	caaaaaaaat	tattaaaaga	attaccgtat	22800
4128	gatccagcaa	ttctgagtat	gtatcccaaa	taactgaaag	caaggactct	ttaatatccg	22860
4130	tacacccatc	tgtttgatat	ttgtgtatct	atgttcatag	catcatttgc	catagccaaa	22920
		aacccaagtg					22980
		tcatttagcc					23040
		ggacattagg					23100
		atcccagcac					23160
		gcctggccaa					23220
4142	aaagttgaaa	cccggaggca	gaggctgcag	tgagccggga	tcactccact	gcactccagc	23280
		cagagcaagc					23340
4146	aaaagaaaaa	taagccagtc	ataaaaggcc	aaattctgta	taattcttac	ctatagtatg	23400
		agtagtcaac					23460
		taataggtac					23520
		agcacaacga					23580
		tatttcttta					23640
		agacagataa					23700
		agtagtggag					23760
		ctacgtaaat					23820
		aaaataggtc					23880
		gactacaaga					23940
		aatctgtatt					24000
		ctaaagttag					24060
		acattctagt					24120
		aacaggcaga					24180
		tttagtacag					24240
		cctaaagtca					24300
		gagtaaaaca					24360
		tagctgccat					24420
		ccttgggaag					24480
		caagcacaca					24540
		atgcaggagt					24600
		tctgaggtga					24660
		ggacttgggc					24720
		acctgaggct					24780
		tcgggcctca					24840
		taggaaacag					24900
		ccagattggt					24960
		2 22	2 22		2 22		

Input Set : A:\pto.da.txt

4200	gaagaaattt	ggaagtaggg	ctacacacac	atatttatct	atggatttac	ataaaagact	25020
4202	tgaatggttg	agatcaacca	tggaaagctt	tgagtccaca	aagatgacta	ggaagcagtc	25080
4204	gtctgaaaaa	tagagcagtc	agggaagcca	agtgagtagg	agataacttc	aaggctggac	25140
4206	ggctaacaat	ctagttgccc	caggatgaac	taaaacatcc	acgtgtttaa	gcatgtagtc	25200
4208	ataaagagat	cattggtgac	ctctgcdaca	gaaatttctg	aagaaatgtt	gagaaaatgg	25260
4210	attaaatggg	cttaagaaat	gaaaaagtga	gcttgtttca	gtgtttgctg	tttcctcaag	25320
4212	taaggaacat	tgttaggcta	aaaagtattt	ttcctaaatt	ttgtttcttt	aaaaaaaca	25380
4214	ggatttcatg	gtaaatagct	attatatgct	gtcaagcaag	caàtggacct	ttcctttaat	25440
4216	taatgaggta	gataatacat	ttcctaatgt	aaaactatcc	taacctccag	atataaacta	25500
4218	cacattgttt	taatacactg	cttatcagtt	gccttgacaa	ttgactttgt	cacacatttt	25560
4220	agtagtatgc	agctagctaa	ctaaaacccc	tggaggcaac	tttggctaaa	ggtcacttgc	25620
4222	agaatgtgaa	aagcagcata	tatacttact	gtgtctcgcc	catcttggac	actgtccagt	25680
4224	tcttaggata	cccggtcttt	taaagctatt	atgattgagt	ctgtaaatat	ttctcaatta	25740
4226	ctatgatctt	tcagactttt	ctatattact	atcatgtaat	tcctatttaa	agtagatgct	25800
4228	accgattatg	aagccattat	tgtacaatca	ttagtacact	gaaataaagt	gtgttcacac	25860
4230	tggtaaagtt	gaggttctac	actgaaaatg	gactatgtta	attctaataa	aactaactac	25920
4232	ggggctgggc	acggtggccc	acacctgtaa	tcccagcact	ctgggaggcc	gagggggca	25980
4234	gatcacttga	agccaggggt	ttcggaccaa	cctgggcaac	atggcaaaac	tgtctctact	26040
4236	aaaaatacaa	aaattagctg	gacatcatgg	cgtgcgcctg	tcatctcagc	tacccaggct	26100
4238	gacacatgag	aatccctggc	acccagaagg	cggaggttgc	cgtagccaaa	aactatggaa	26160
4240	gaaccccatt	tgaactcagt	ttacggaatt	cttggctttt	tttcatttta	atgtctttaa	26220
4242	taataccacc	accaaatcca	ccctcacacc	ttaccaaatc	tttactacca	aattttattt	26280
4244	cagaattaaa	aagatagttc	acttggggcc	atttcctcac	tcctcccaaa	aaatcctgtc	26340
		aagtatcaat					26400
4248	ctcactaatc	ttaaattctt	ccaggtctca	ttttaacaag	caccagttga	aataatgggt	26460
		tatttaataa					26520
4252	ctttagagtc	gattactata	cataatacaa	gtacctgccc	aaaagtatgt	ttgttctcct	26580
4254	aaaccaggtt	attttcctca	atttattaaa	ctggattctt	atagaaagat	tacaagggtt	26640
4256	tgaataggca	agaactgcaa	agttgtgcat	acttacagaa	atttagggaa	acacacaaag	26700
4258	aatgaatgaa	tgcaaagaca	cacaaaacca	ggtactttac	tgcaggtctt	ggtgttttt	26760
4260	tcagttaaac	aaatcttaaa	tccccaaagc	caggtgaacc	attaaacctc	aataatgtaa	26820
4262	cacattatct	aaatactaga	attcctaaag	ggaacagtag	gtctgaattt	gtagtcttag	26880
4264	atcagaaagt	aaagcgaagg	aagacaaact	ggagcatggt	atatacttgc	gtgatttcca	26940
4266	ctatggggtc	ttcagtagag	tggagaagtg	cacaacttcc	tagaaaattt	gagtactatt	27000
		agaaatataa					27060
4270	cagtgtggga	aattctcaac	acagagaaat	gtttacacaa	aactacagtt	gtgctcatca	27120
4272	aaatatactt	gcaacttgtg	taccctaatt	tcccaaatac	tcttttgtct	tttccttttc	27180
4274	agataaccac	attttaatat	cagcattggt	gattgctagc	acggtaattt	tgacagtttt	27240
		atttggttcc					27300
4278	ttcaaccgca	ccccaatcac	cttataatga	agactgtgtt	ttggtagttg	gagaagaaaa	27360
4280	tgaatatcct	gttcaatttg	actaagtttt	tggtaatctt	gcactaagac	atcaacaaaa	27420
4282	tgccctggca	gagataactt	gggaaagatt	ttaatataaa	acttgacatt	ggatattaga	27480
4284	gctttaatgg	tattccttat	tccagtaaca	tttttatgta	ctcatctgct	gtgaaaagtc	27540
		ttaaaaaaac					27600
4288	agcatcccgt	caaaggcaga	atctgtcact	tgaatgaagg	aaagcttaaa	gcccaagcag	27660
		aagcccagcc					27720
		tatatgttta	-				27780
		ttaaatatct					27840
4296	tgtgtatctt	tttatgattt	agatgaagaa	aattttacaa	cttttaacac	cccacaccaa	27900

Input Set : A:\pto.da.txt

```
4298 ttttagtttc attactttta cacacaccat tttatcacaa atgactcaag ttttaatgaa
4300 tgtttataaa ttatttgaaa caaaatatga tcgctgtgtc caggatggca tagagaaagc
                                                                       28080
4302 tggcaattag gttaacactt acatattata gtgccccttt aaggatttct ctcttgccac
4304 catacctttt gtactttccc ctatacaaga tgtatctcat tctcctcaag catttataaa
                                                                       28140
4306 tttttccttc aatgacatga aaactgtgca agcaaaaacc gaagaaaaac acttaagtac
4308 aactgtagtg acagtgatca aagttttcag tgcatttatt gtacatttta agaaaaaggt
                                                                       28260
4310 qaaaatcatt tqqqqagtaa aaaaatgaaa aagctgaaac gagtaatttt cctcaccatc
                                                                       28320
4312 aataaaccaa aaacaggaaa gataaagaat gtataaattt cacgtaaatt agtcacgtat
4314 cacttatcaa tggggatacg ttctaagaaa tgcatagtta gggaatcttg tgtgaaaatc
                                                                       28440
4316 agettgtatt tacacaaace cagatggtag agectatttt gteecaaace tacacageat
                                                                       28500
4318 gttactgtgc tgaatactgc agacaattgt aacacaatat ttgtgtatct aaatatagaa
4320 aaggtacagt aaaaatatgg totactaagg aaacactgtt ctatatgtgg tocattactg
4322 actgaagtat actgtctaga agtctgaggc tcaaagaaaa gtaatccctc ttctgaatcc 28680
4324 acaccccatc aattatctta ctttcttctq qqqaqataqa taqatatact atctcactaq 28740
4326 cttgactaat ggcaacaaag ttccagcttg tgtagtctct ttttattgac cacatgaatc 28800
4328 gaaaacactc atcacaatta atggcactat cattaatgag acatgagtaa ctaaaaagtg 28860
4330 atagaaaact attaacagtg cggctacatg gtactgaaaa tgcaggcatt acaccagctg 28920
4332 ttacacaagc acaagcatgc tctgtaagag ctttacattt ctgagatttt gtatagtgat
4334 tgagatgtct attttattat tgatagacta ttactaatgt caatattgaa cactaccctg 29040
4336 gaatteetge etggttttee tacceaaatt gtaccactee ttgaagaact acaggeacag
4338 taaaaaaaat atggcqtatt atgtgaacta aaagagttct aaaggagttc ttaaaggagt 29160
4340 ggtagaattt gggtaggaaa gtgattaagt ccaacttaaa accaacagtc tcaaacgtct 29220
4342 acaactacaa tgtccaatga gccactagcc acatgaggct atttaagtaa atttagttta 29280
4344 aaatccaqtt ttcqaattac attagccaca ttgtcaagtg ttcaaatcac aggtggttag 29340
4346 tggctactgt actgggcaac atacattata gaacattttc attataggaa gttttattgg 29400
4348 gcagtgctgc tcttaaatcc taccttccac tcaactccca tacaactttc ttttgtacat
4350 tttgatactt tctacctaat ggcagctctt ccaaaatagc tgctttaaac tctgatttaa 29520
4352 ttttcaatat ttggtttcat ttttcaacag gccaagaggc ctctggtaat gaagtgctat 29580
4354 atatatatat atgatggagt ctcactgtgc tgcccaggct acagtgcagt ggctcgatct
4356 tggctctctc caatctccgc cttgcaggtt ttcaagcaat tctcctgcct cagcctcctt
4358 agtagctggg accacagaca tetgtcacca cacccageta actttttgta tttttggtag 29760
4360 agacggggtt tcgccatatt gactgggctg gtctcaaact cctgacctca agtgatccac
4362 ccaccttggt ctcccaaagt gctgggatta catgcgtgag ccaccacact tggcctacat
4364 tttttcttta tataccagaa catctataac aggcacctta tctactcatt agtgaagaga 29940
4366 taattggatt acacaggcag gcttgtttac tacatccaga atgtagaaac tgctttcttc 30000
4368 aacatcttgg ttctagctag taataacaat ataattcttt ggcagatatt cagaataaca 30060
4370 ttttaaacta cattttctta gaaaattgca ttcttgtagt gagcagtgta tggtctcttt
4372 tgttcagaat ttaaaactga taaccaatga aagccttttc tcttattcct ctaccgtcat
                                                                       30180
4374 ttacatgata atctgaagct aatatgacaa tatttaaata ctaagtggta ctagggaact
                                                                       30240
4376 acaagaatac tgtaaagctt aagccattgt tatcactgtc atttagcatt taataacaaa
4378 actatacaga attatgtgca taccaatgaa tgttttgtac catctagtta aattttttaa
4380 ataaagtttt atgggttaag cagaagacaa ctgtcatact gaattttatt aaaagtatat
4382 atacttcaaa ttcaaagcat cccttaggac ccacagaata tattaaaact accaccctta
                                                                       30480
4384 aattttatat ttttgcttta agacagacaa tgcaaaggta actggcaaga ggtgagcaaa
4386 tgttttagaa catttatatt attgcttaaa atgagatttg aaattgtaat aaaattcttg
4388 gttatgaagt ctgatgtctt ctttgagcac cagtttaaaa ggaaacattt caaacagtaa
                                                                       30660
4390 aataaatcag tgtgtacttt attttgagcc aatgttttac ataagaccaa caaactaagt
                                                                        30720
4392 gtgggcaaac tgttcaatca cttttgagaa attacatggt tcctatttag gtttgaaaaa
                                                                        30780
4394 gtagtttgtt gccataacat cagaccttaa ggtgttttaa agtgtatcct aagggtactg 30840
```

Input Set : A:\pto.da.txt

Output Set: N:\CRF4\06162005\J537839.raw

4396 acaqaaqaaa aatacaqtqt tatqqaaqta tacacaactc atgaccacac agtatagatc 4398 cattcatggt gaataatgtt catctgttct ccaaaggtag tgaaaaatat taagtcatca 4400 aataaatgct cagaattacc aaggaacagt taaaaaaggac caggatccaa acaggttatt 31020 4402 tatatattta totataaaca agtgacaaca otaaaaaaca cattgaaaac cagtgtttta 31080 4404 aactctgaat gtgggattta aaaatattcc attaacttga gattgcaata atttttttaa 31140 4406 accaaatagc atttgactgg caagteteat ataatttaca getgtaatat teetaaaagg 31200 4408 aatatctaca tactataqcc tatcaaatat aatctgcatt ttgcaaatca atacaaaaat 31260 4410 ctatccatca tttatacatt ttatatttat atacttttta aaaattagat tttattgcta 4412 qqtqaatttq qaattcaaat taaatttqqa aacttaataa tqctcttctc ataaccttct 4414 ccccattctt tttttaattt ttaaacactg gaagcaaatg attatcaaaa tgagactgca 31440 4416 acttaaggca ttttaaaaga aaaaataatt aggtgccata tagcatttta tttcaaaagt 31500 4418 atattttqtc ccacttttct cactagcaag agtaaaacac aaaccttttt tcataaatat 4420 gactacagta atcataacac aaaaaagggt tgataggcat tgcttagata tttaaaacaa 31620 4422 qqqtaatact ttcccactca cctaaaagaa aaaacctttt tgattaccag tttataaaca 4424 tcggatttgc tatgttaaaa agtccagcag aattttaatt cagcaacact ggagaatgaa 4426 tatatatata caggcataca tgtgtatgta tatattcatt ttatatatag tcaatgtatt 4428 tattaggcat tcccccacaa aagtaattta tatttaattg ccatttttaa taaacactta 31860 4430 tgttcacaga tcatccatct gtcttatatg aagttaggca atatcaaatg tcctgttatg 31920 4432 gtctccgtct tcttcggaat catcctctga agctgttgaa agaaaacagg atgatcaaga 32040 4434 atgattttaa gggggataag aatgggaagt gtaaatatga agccagaaca gcaatgactt 4436 qtaaaaacaa aaatcccaat ttaqtatatt qtttgatcaa aatgataagt tgtatgacag 32100 4438 ggttagggtg gtctgcctgt gggtgatacc caaccacaat tctccccgcc cccacaccgt 32160 4440 tttgtaatgt tatatcaatt tttataaaaa tgaaagtgct taaaaatgtg gttcaagagc 32220 4442 atcttctaaa atgtttctga gatcaatctg tgttcatagt agctaatgat atataaacac 32280 4444 taggaaaaaa gtcaacttaa ggcaagtgct ctcacacacc tgagtaaaat ctggcttatt 32340 4446 accgctgcat gtttggtgca tccgatgaga atgaaaagaa gtgtacatag aataagaggt 32400 4448 tatgggtgtt cttgcaattt acatcaaagc tatgtctata caatgccaag ataaaagttc E--> 4457(- 3 -

Del P. 13 for more enous

delete

<210> 23
<211> 21
<212> DNA
<213> Synthetic

<a href="mailto:synthetic">
<

The types of errors shown exist-throughout the Sequence Listing. Please check subsequent sequences for similar errors.

#### VERIFICATION SUMMARY

PATENT APPLICATION: US/10/537,839

DATE: 06/16/2005 TIME: 10:18:54

Input Set : A:\pto.da.txt

Output Set: N:\CRF4\06162005\J537839.raw

L:10 M:270 C: Current Application Number differs, Replaced Current Application No L:10 M:271 C: Current Filing Date differs, Replaced Current Filing Date L:28 M:258 W: Mandatory Feature missing, <223> Blank for SEQ#:1,Line#:25 L:1231 M:258 W: Mandatory Feature missing, <223> Blank for SEQ#:4,Line#:1229 L:1609 M:258 W: Mandatory Feature missing, <223> Blank for SEQ#:7,Line#:1606 L:1810 M:258 W: Mandatory Feature missing, <223> Blank for SEQ#:10, Line#:1807 L:1812 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:10 after pos.:48 M:341 Repeated in SeqNo=10 L:1901 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:11 after pos.:0 M:341 Repeated in SeqNo=11 L:2010 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:13 after pos.:0 L:2040 M:258 W: Mandatory Feature missing, <223> Blank for SEQ#:14, Line#:2037 L:2069 M:258 W: Mandatory Feature missing, <223> Blank for SEQ#:16, Line#:2067 L:2096 M:258 W: Mandatory Feature missing, <223> Blank for SEQ#:18, Line#:2094 L:2125 M:258 W: Mandatory Feature missing, <223> Blank for SEQ#:20,Line#:2123 L:4457 M:254 E: No. of Bases conflict, this line has no nucleotides.

# This Page is Inserted by IFW Indexing and Scanning Operations and is not part of the Official Record

### **BEST AVAILABLE IMAGES**

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images include but are not limited to the items checked:	
	BLACK BORDERS
	IMAGE CUT OFF AT TOP, BOTTOM OR SIDES
	FADED TEXT OR DRAWING
	BLURRED OR ILLEGIBLE TEXT OR DRAWING
	SKEWED/SLANTED IMAGES
	COLOR OR BLACK AND WHITE PHOTOGRAPHS
7	GRAY SCALE DOCUMENTS
4	LINES OR MARKS ON ORIGINAL DOCUMENT
	REFERENCE(S) OR EXHIBIT(S) SUBMITTED ARE POOR QUALITY

## IMAGES ARE BEST AVAILABLE COPY.

As rescanning these documents will not correct the image problems checked, please do not report these problems to the IFW Image Problem Mailbox.